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26291 7590 04/20/2007 PATTERSON & SHERIDAN L.L.P. 595 SHREWSBURY AVE, STE 100 FIRST FLOOR SHREWSBURY, NJ 07702			EXAMINER PATEL, CHANDRAHAS B	
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

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<b>Office Action Summary</b>	<b>Application No.</b>		<b>Applicant(s)</b>	
	10/606,336		MAUFER ET AL.	
	<b>Examiner</b>		<b>Art Unit</b>	
	Chandrabas Patel		2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 17 December 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-46 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-46 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 June 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date: _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date: _____   | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Claim Objections***

Claims 12-14, 16, 17 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 12 depends on itself. Claims 13 and 14 depend on claim 12. Claim 12 does not have features claimed in claims 13 and 14. For the purpose of further examination examiner treats claims 12-14 as depending from claim 11. Claim 16 depends on itself. Claim 17 depends of claim 16. Claim 16 does not have features claimed in claim 17. For the purpose of further examination examiner treats claims 16 and 17 as depending from claim 15.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 101***

1. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 18-20, 30 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Page 49, paragraph 151 states a signal-bearing medium includes, "(iii) information conveyed to a computer by a communications medium, such as through a computer or telephone network, including wireless communications." Information on wireless communication raises the question of the signal-bearing medium not being limited to statutory subject matter [See MPEP 2106.01]. Information on wireless communication is

Art Unit: 2616

temporary burst of information which is only there until the device receives the information thus is intangible which renders the claims non-statutory.

***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 9 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. The term "substantially more compact" in claim 9 is a relative term which renders the claim indefinite. The term "substantially" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. The term substantially more compact does not clearly indicate how compact the routing the table is and therefore is indefinite.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. ***Claims 1-3, 6, 10, 11, 14, 15, 17, 18-24, 26-46 are rejected under 35 U.S.C. 102(b) as being anticipated by Ambe et al. (US-PGPUB 2002/0009083).***

**Regarding claim 1**, Ambe et al. teaches a method for routing [Abstract], comprising: obtaining a packet, the packet having an Internet Protocol destination address and a media access

Art Unit: 2616

control destination address in a data structure [**Page 13, Table 1 has a packet with IP destination address, MAC destination address fields**]; determining whether a media access control destination address for the packet matches an interface of the packet [**Page 11, Paragraph 211**]; determining whether the packet contains a routable protocol responsive to the media access control destination address matching the interface [**Page 11, Paragraph 211**]; if the packet contains the routable protocol, checking for layer-level validity of the packet [**Page 11, Paragraph 212, IP checksum is checked which is layer-level validity**]; marking the data structure associated with the packet to indicate the layer-level validity was checked [**Page 11, Paragraph 212**]; checking for Internet Protocol options being supported and valid [**Page 11, paragraph 215**]; and marking the data structure associated with the packet to indicate the Internet Protocol options were checked for support and validity [**Page 11, Paragraph 218**]; and if the layer-level is valid and the Internet Protocol options are supported and valid, accessing the Internet Protocol destination address from the packet [**Page 11, Paragraph 219**]; looking for the Internet Protocol destination address in the routing table [**Page 11, Paragraph 219**]; obtaining an address resolution table index stored in association with the Internet Protocol destination address in the routing table responsive to the Internet Protocol destination address being found in the routing table [**Page 11, 219, next Hop Mac address is the address resolution table index**]; and storing in the data structure associated with the packet the address resolution table index obtained [**Page 11, 219, next Hop address is stored with the packet**].

Regarding claim 2, Ambe et al. teaches the interface is an incoming interface [**Page 11, 211**].

Art Unit: 2616

**Regarding claim 3**, Ambe et al. teaches the interface is an outgoing interface [**Page 11, 209**].

**Regarding claim 6**, Ambe et al. teaches determining whether routing is supported within a network-processing unit [**Page 11, Paragraph 219, the default router is a network processing unit**].

**Regarding claims 10 and 14**, Ambe et al. teaches the look up is done by finding an exact match in the routing table of the IP destination address [**Page 11, Paragraph 206**].

**Regarding claim 11**, Ambe et al. teaches a method of routing [**Abstract**], comprising: obtaining a packet, the packet having an Internet Protocol source address, an Internet Protocol destination address and a media access control destination address in a data structure [**Page 13, Table has a packet with IP source address, IP destination address, MAC destination address**]; determining whether the media access control destination address for the packet matches an interface of the packet [**Page 11, Paragraph 211**]; determining whether the packet is a multicast packet [**Page 11, 217**] and whether multicast routing is invoked responsive to the media access control destination address not matching the interface [**Page 7, 145**]; if the packet is a packet for multicasting and multicasting is invoked, accessing the Internet Protocol source address from the packet [**Page 12, paragraph 229**]; and checking a routing table for the Internet Protocol source address [**Page 12, paragraph 229**]; if the routing table contains the Internet Protocol source address, checking for layer-level validity of the packet [**Page 12, 230**]; marking a data structure associated with the packet to indicate the layer-level validity was checked [**Page 12, 230**]; checking for Internet Protocol options being supported and valid [**Page 11, Paragraph 215**]; and marking the data structure associated with the packet to indicate the Internet Protocol

Art Unit: 2616

options were checked for support and validity [**Page 11, Paragraph 218**]; and if the layer-level is valid and the Internet Protocol options are supported and valid, table; accessing the Internet Protocol destination address from the packet [**Page 11, Paragraph 219**]; looking for the Internet Protocol destination address in the routing table [**Page 11, Paragraph 219**]; obtaining an address resolution table index stored in association with the Internet Protocol destination address in the routing table responsive to the Internet Protocol destination address being found in the routing table [**Page 11, 219, next Hop Mac address is the address resolution table index**]; and storing in the data structure associated with the packet the address resolution table index obtained [**Page 11, 219, next Hop address is stored with the packet**].

Regarding claim 15, Ambe et al. teaches a method of bridging [**Abstract**], comprising: obtaining a packet, the packet having a media access control destination address in a data structure [**Page 13, Table 1, MAC destination address**]; determining whether the media access control destination address for the packet matches an interface of the packet [**Page 11, Paragraph 211**]; determining whether the packet is a multicast packet [**Page 11, Paragraph 217**] and whether multicast routing is invoked responsive to the media access control destination address not matching the interface [**Page 7, Paragraph 145**]; if the packet is not a packet for multicasting or multicasting is not invoked, looking for the media access control destination address in an address resolution table [**Page 8, Paragraph 148**]; obtaining an address resolution table index stored in association with the media access control destination address in the address resolution table responsive to the media access control destination address being found in the address resolution table [**Page 8, Paragraph 150, search key is address resolution table**

Art Unit: 2616

index]; and storing in the data structure associated with the packet the address resolution table index obtained [Page 8, Paragraph 150].

**Regarding claim 17**, Ambe et al. teaches checking whether the bridging is supported within a network-processing unit [Page 20, Paragraph 347].

**Regarding claim 18**, Ambe et al. teaches a signal-bearing medium containing a program which, when executed by a processor, causes execution of a method for routing [Page 3, Paragraph 61] comprising: obtaining a packet, the packet having an Internet Protocol destination address and a media access control destination address in a data structure [Page 13, Table 1 has a packet with IP destination address, MAC destination address fields]; determining whether a media access control destination address for the packet matches an interface of the packet [Page 11, Paragraph 211]; determining whether the packet contains a routable protocol responsive to the media access control destination address matching the interface [Page 11, Paragraph 211]; if the packet contains the routable protocol, checking for layer-level validity of the packet [Page 11, Paragraph 212, IP checksum is checked which is layer-level validity]; marking the data structure associated with the packet to indicate the layer-level validity was checked [Page 11, Paragraph 212]; checking for Internet Protocol options being supported and valid [Page 11, paragraph 215]; and marking the data structure associated with the packet to indicate the Internet Protocol options were checked for support and validity [Page 11, Paragraph 218]; and if the layer-level is valid and the Internet Protocol options are supported and valid, accessing the Internet Protocol destination address from the packet [Page 11, Paragraph 219]; looking for the Internet Protocol destination address in the routing table [Page 11, Paragraph 219]; obtaining an address resolution table index stored in association with



Art Unit: 2616

the Internet Protocol destination address in the routing table responsive to the Internet Protocol destination address being found in the routing table [**Page 11, 219, next Hop Mac address is the address resolution table index**]; and storing in the data structure associated with the packet the address resolution table index obtained [**Page 11, 219, next Hop address is stored with the packet**].

**Regarding claim 19**, Ambe et al. teaches a signal-bearing medium containing a program which, when executed by a processor, causes execution of a method for routing [**Page 3, Paragraph 61**] comprising: obtaining a packet, the packet having an Internet Protocol source address, an Internet Protocol destination address and a media access control destination address in a data structure [**Page 13, Table has a packet with IP source address, IP destination address, MAC destination address**]; determining whether the media access control destination address for the packet matches an interface of the packet [**Page 11, Paragraph 211**]; determining whether the packet is a multicast packet [**Page 11, 217**] and whether multicast routing is invoked responsive to the media access control destination address not matching the interface [**Page 7, 145**]; if the packet is a packet for multicasting and multicasting is invoked, accessing the Internet Protocol source address from the packet [**Page 12, paragraph 229**]; and checking a routing table for the Internet Protocol source address [**Page 12, paragraph 229**]; if the routing table contains the Internet Protocol source address, checking for layer-level validity of the packet [**Page 12, 230**]; marking a data structure associated with the packet to indicate the layer-level validity was checked [**Page 12, 230**]; checking for Internet Protocol options being supported and valid [**Page 11, Paragraph 215**]; and marking the data structure associated with the packet to indicate the Internet Protocol options were checked for support and validity [**Page**

**11, Paragraph 218]**; and if the layer-level is valid and the Internet Protocol options are supported and valid, table; accessing the Internet Protocol destination address from the packet **[Page 11, Paragraph 219]**; looking for the Internet Protocol destination address in the routing table **[Page 11, Paragraph 219]**; obtaining an address resolution table index stored in association with the Internet Protocol destination address in the routing table responsive to the Internet Protocol destination address being found in the routing table **[Page 11, 219, next Hop Mac address is the address resolution table index]**; and storing in the data structure associated with the packet the address resolution table index obtained **[Page 11, 219, next Hop address is stored with the packet]**.

**Regarding claim 20**, Ambe et al. teaches a signal-bearing medium containing a program which, when executed by a processor, causes execution of a method for routing **[Page 3, Paragraph 61]** comprising: obtaining a packet, the packet having a media access control destination address in a data structure **[Page 13, Table 1, MAC destination address]**; determining whether the media access control destination address for the packet matches an interface of the packet **[Page 11, Paragraph 211]**; determining whether the packet is a multicast packet **[Page 11, Paragraph 217]** and whether multicast routing is invoked responsive to the media access control destination address not matching the interface **[Page 7, Paragraph 145]**; if the packet is not a packet for multicasting or multicasting is not invoked, looking for the media access control destination address in an address resolution table **[Page 8, Paragraph 148]**; obtaining an address resolution table index stored in association with the media access control destination address in the address resolution table responsive to the media access control destination address being found in the address resolution table **[Page 8, Paragraph 150, search**

Art Unit: 2616

**key is address resolution table index**]; and storing in the data structure associated with the packet the address resolution table index obtained **[Page 8, Paragraph 150]**.

**Regarding claim 21**, Ambe et al. teaches an apparatus for routing **[Page 3, Paragraph 61]** comprising: means for obtaining a packet, the packet having an Internet Protocol destination address and a media access control destination address in a data structure **[Page 13, Table 1 has a packet with IP destination address, MAC destination address fields]**; means for determining whether a media access control destination address for the packet matches an interface of the packet **[Page 11, Paragraph 211]**; means for determining whether the packet contains a routable protocol responsive to the media access control destination address matching the interface **[Page 11, Paragraph 211]**; responsive to the packet contains the routable protocol, means for checking for layer-level validity of the packet **[Page 11, Paragraph 212, IP checksum is checked which is layer-level validity]**; means for marking the data structure associated with the packet to indicate the layer-level validity was checked **[Page 11, Paragraph 212]**; means for checking for Internet Protocol options being supported and valid **[Page 11, paragraph 215]**; and means for marking the data structure associated with the packet to indicate the Internet Protocol options were checked for support and validity **[Page 11, Paragraph 218]**; and responsive to the layer-level is valid and the Internet Protocol options are supported and valid, means for accessing the Internet Protocol destination address from the packet **[Page 11, Paragraph 219]**; means for looking for the Internet Protocol destination address in the routing table **[Page 11, Paragraph 219]**; means for obtaining an address resolution table index stored in association with the Internet Protocol destination address in the routing table responsive to the Internet Protocol destination address being found in the routing table **[Page 11, 219, next Hop**

**Mac address is the address resolution table index]**; and means for storing in the data structure associated with the packet the address resolution table index obtained **[Page 11, 219, next Hop address is stored with the packet]**.

**Regarding claim 22**, Ambe et al. teaches an apparatus for routing **[Page 3, Paragraph 61]** comprising: means for obtaining a packet, the packet having an Internet Protocol source address, an Internet Protocol destination address and a media access control destination address in a data structure **[Page 13, Table has a packet with IP source address, IP destination address, MAC destination address]**; means for determining whether the media access control destination address for the packet matches an interface of the packet **[Page 11, Paragraph 211]**; means for determining whether the packet is a multicast packet **[Page 11, 217]** and whether multicast routing is invoked responsive to the media access control destination address not matching the interface **[Page 7, 145]** ; responsive to the packet is a packet for multicasting and multicasting is invoked, means for accessing the Internet Protocol source address from the packet **[Page 12, paragraph 229]**; and means for checking a routing table for the Internet Protocol source address **[Page 12, paragraph 229]**; responsive to the routing table contains the Internet Protocol source address, means for checking for layer-level validity of the packet **[Page 12, 230]**; means for marking a data structure associated with the packet to indicate the layer-level validity was checked **[Page 12, 230]**; means for checking for Internet Protocol options being supported and valid **[Page 11, Paragraph 215]**; and means for marking the data structure associated with the packet to indicate the Internet Protocol options were checked for support and validity **[Page 11, Paragraph 218]**; and responsive to the layer-level is valid and the Internet Protocol options are supported and valid, table; means for accessing the Internet Protocol destination address from

Art Unit: 2616

the packet [**Page 11, Paragraph 219**]; means for looking for the Internet Protocol destination address in the routing table [**Page 11, Paragraph 219**]; means for obtaining an address resolution table index stored in association with the Internet Protocol destination address in the routing table responsive to the Internet Protocol destination address being found in the routing table [**Page 11, 219, next Hop Mac address is the address resolution table index**]; and means for storing in the data structure associated with the packet the address resolution table index obtained [**Page 11, 219, next Hop address is stored with the packet**].

**Regarding claim 23**, Ambe et al. teaches an apparatus for routing [**Page 3, Paragraph 61**] comprising: means for obtaining a packet, the packet having a media access control destination address in a data structure [**Page 13, Table 1, MAC destination address**]; means for determining whether the media access control destination address for the packet matches an interface of the packet [**Page 11, Paragraph 211**]; means for determining whether the packet is a multicast packet [**Page 11, Paragraph 217**] and whether multicast routing is invoked responsive to the media access control destination address not matching the interface [**Page 7, Paragraph 145**]; responsive to the packet is not a packet for multicasting or multicasting is not invoked, means for looking for the media access control destination address in an address resolution table [**Page 8, Paragraph 148**]; means for obtaining an address resolution table index stored in association with the media access control destination address in the address resolution table responsive to the media access control destination address being found in the address resolution table [**Page 8, Paragraph 150, search key is address resolution table index**]; and means for storing in the data structure associated with the packet the address resolution table index obtained [**Page 8, Paragraph 150**].

**Regarding claim 24**, Ambe et al. teaches a method of routing [**Page 5, Paragraph 92**] comprising: obtaining a packet for network address translation, the packet having a media access control header [**Page 5, Paragraph 93**]; determining if a network processing unit is in a pass-through mode responsive for the packet [**Page 5, Paragraph 93**]; and, responsive to the network processing unit not being in the pass-through mode obtaining a media access control source address from the media access control header is stored in an address resolution table [**Page 5, Paragraph 93**]; determining whether an incoming interface is running network address translation [**Page 5, Paragraph 92**]; and routing the packet responsive to the incoming interface not running the network address translation, the routing including, obtaining an index from the packet to access routing information stored in a data structure [**Page 5, Paragraph 93**].

**Regarding claim 26**, Ambe et al. teaches determining whether the packet is for a multicast or broadcast frame [**Pages 6-7, Paragraph 126**]; determining whether the incoming interface equals an outgoing interface [**Page 23, Paragraph 389**]; reading control bits for the packet responsive to the media access control source address obtained [**Page 7, Paragraph 138**, **ARL table is searched which has control bits as described in Paragraphs 128-134 of Page 7**].

**Regarding claim 27**, Ambe et al. teaches determining protocol type of the packet [**Page 2, Paragraph 230**]; and determining whether the protocol type is supported on the outgoing interface [**Page 12, Paragraph 234**].

**Regarding claim 28**, Ambe et al. teaches determining whether broadcasting or multicasting is invoked for the outgoing interface [**Page 16, Paragraph 280**].

**Regarding claim 29**, Ambe et al. teaches an apparatus for routing [**Page 3, Paragraph 61**] comprising: means for obtaining a packet for network address translation, the packet having a media access control header [**Page 5, Paragraph 93**]; means for determining if a network processing unit is not in a pass-through mode responsive for the packet [**Page 5, Paragraph 93**]; and, means for obtaining a media access control source address from the media access control header is stored in an address resolution table [**Page 5, Paragraph 93**]; means for reading control bits for the packet responsive to the media access control source address obtained [**Page 7, Paragraph 138, ARL table is searched which has control bits as described in Paragraphs 128-134 of Page 7**]; means for determining whether an incoming interface is running network address translation [**Page 5, Paragraph 92**]; means for routing the packet responsive to the incoming interface not running the network address translation, the means for routing including means for obtaining an index from the packet to access routing information stored in a data structure [**Page 5, Paragraph 93**].

**Regarding claim 30**, Ambe et al. teaches a signal-bearing medium containing a program which, when executed by a processor, causes execution of a method for routing [**Page 3, Paragraph 61**] comprising: obtaining a packet for network address translation, the packet having a media access control header [**Page 5, Paragraph 93**]; determining if a network processing unit is not in a pass-through mode responsive for the packet [**Page 5, Paragraph 93**]; obtaining a media access control source address from the media access control header is stored in an address resolution table [**Page 5, Paragraph 93**]; determining whether an incoming interface is running network address translation [**Page 5, Paragraph 92**]; and routing the packet responsive to the incoming interface not running the network address translation, the routing

including, obtaining an index from the packet to access routing information stored in a data structure [**Page 5, Paragraph 93**].

**Regarding claim 31**, Ambe et al. teaches a method of routing a packet [**Abstract**] comprising: checking for layer-2 validity [**Page 6, Paragraph 102**]; checking for layer-3 validity [**Page 6, Paragraph 113**]; marking a header to indicate that the layer-2 validity check was done [**Page 6, Paragraph 102**]; marking the header to indicate that the layer-3 validity check was done [**Page 6, Paragraph 113**]; determining if a frame is for broadcasting or multicasting the packet [**Pages 6-7, Paragraph 126**]; if the frame is for broadcasting or multicasting the packet [**Page 11, Paragraph 217**], determining if a host operating system is to process the packet; and forwarding the packet to a host Internet Protocol stack responsive to a determination that the host operating system is to process the packet [**Page 11, Paragraph 219**].

**Regarding claim 32**, Ambe et al. teaches if a frame is neither a broadcast frame nor a multicast frame, determining whether a MAC destination address for the packet matches an inbound interface address for the packet [**Page 11, Paragraph 211**].

**Regarding claim 33**, Ambe et al. teaches if MAC destination address not matching the inbound interface address: determining if bridging is supported by network interface circuitry [**Page 20, Paragraph 347**]; and looking up the media access control destination address in an address resolution table [**Page 8, Paragraph 148**].

**Regarding claim 34**, Ambe et al. teaches obtaining an address resolution table index stored in association with the media access control destination address [**Page 8, Paragraph 150, search key is address resolution table index**]; and storing the address resolution table index in a header of the packet [**Page 8, Paragraph 150**].



**Regarding claim 35**, Ambe et al. teaches determining whether a protocol of the packet is routable on an inbound interface of the packet [**Page 11, Paragraph 211**].

**Regarding claim 36 and 39**, Ambe et al. teaches determining whether network interface circuitry supports unicast routing [**Page 13, Paragraph 243**]; checking for support for IP options for the packet [**Page 11, Paragraph 212**]; and looking up an Internet Protocol destination address for the packet in a routing table [**Page 11, Paragraph 219**].

**Regarding claim 37**, Ambe et al. teaches if frame is for multicasting but not for processing by the host operating system, determining if Internet Protocol routing is active [**Page 11, Paragraph 219**].

**Regarding claim 38**, Ambe et al. teaches determining whether an IP source address for the packet is in a routing table [**Page 12, Paragraph 229**].

**Regarding claim 40**, Ambe et al. teaches a method for routing a packet [**Abstract**] comprising: checking for layer-2 validity; marking a data structure associated with the packet to indicate the checking of the layer-2 validity [**Page 6, Paragraph 102**]; determining whether a media access control destination address for the packet matches an interface address of the packet [**Page 11, Paragraph 211**]; determining whether the packet contains a routable protocol responsive to the media access control destination address matching the interface address [**Page 11, Paragraph 211**]; responsive to the packet having the routable protocol, checking for layer-3 validity; marking the data structure associated with the packet to indicate the checking of the layer-3 validity [**Page 6, Paragraph 113**]; checking for Internet Protocol options for the packet [**Page 11, Paragraph 212**]; and determining if an Internet Protocol destination address for the packet is in an address resolution table [**Page 11, Paragraph 219**].

**Regarding claim 41**, Ambe et al. teaches in response to packet having at least one IP option [Page 11, Paragraph 215], checking the at least one Internet option; and marking the data structure to indicate the checking of the at least one Internet option [Page 11, Paragraph 218].

**Regarding claim 42**, Ambe et al. teaches determining whether the routing of the packet is supported in network interface circuitry [Page 13, Paragraph 243].

**Regarding claim 43**, Ambe et al. teaches a method for routing a packet [Abstract] comprising: checking for layer-2 validity; marking a data structure associated with the packet to indicate the checking of the layer-2 validity [Page 6, Paragraph 102]; determining whether a media access control destination address for the packet matches an interface address of the packet [Page 11, Paragraph 211]; determining if the packet is for a unicast or a broadcast; determining if the packet is for a multicast frame [Page 11, Paragraph 217]; responsive to the packet being for the multicast frame, determining whether Internet Protocol multicast routing is active [Page 11, Paragraph 219]; responsive to the packet being for unicasting or broadcasting or not being for multicasting, determining whether bridging is supported in network interface circuitry [Page 20, Paragraph 347]; looking for the media access control address for the packet in an address resolution table [Page 8, Paragraph 148]; and storing an address resolution table index responsive to finding the media access control address in the address resolution table [Page 8, Paragraph 150].

**Regarding claim 44**, Ambe et al. teaches the address resolution table index is stored in data structure associated with the packet [Page 11, 219, next Hop address is stored with the packet].

Art Unit: 2616

**Regarding claim 45**, Ambe et al. teaches a method for routing a packet **[Abstract]** comprising: checking for layer-2 validity; marking a data structure associated with the packet to indicate the checking of the layer-2 validity **[Page 6, Paragraph 102]**; determining whether a media access control destination address for the packet matches an interface address of the packet **[Page 11, Paragraph 211]**; determining if the packet is for a unicast or a broadcast; determining if the packet is for a multicast frame **[Page 11, Paragraph 217]**; responsive to the packet being for the multicast frame, determining whether Internet Protocol multicast routing is active **[Page 11, Paragraph 219]**; responsive to multicast routing being active, determining if an IP source address for the packet is in a routing table **[Page 12, Paragraph 229]**; obtaining reverse path forwarding interface information stored in association with the Internet Protocol source address in the routing table **[Page 12, Paragraph 234, egress port is the interface through which packet will be forwarded]**.

**Regarding claim 46**, Ambe et al. teaches storing the reverse path forward interface information in a data structure associated with the packet **[Page 12, Paragraph 234, interface information is stored in port bit map]**.

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. ***Claims 4, 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ambe et al. (US-PGPUB 2002/0009083) in view of Kato et al. (USPN 6,649,999).***

Art Unit: 2616

**Regarding claim 4**, Ambe et al. teaches a method as discussed in rejection of claim 1.

However, Ambe et al. does not teach the routable protocol is an Internet Protocol, and wherein the Internet Protocol is version four.

Kato et al. teaches the routable protocol is an Internet Protocol version four [Col. 8, lines 53-56].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Internet Protocol version four for routing purposes since it allows for expanding the address space and easing the routing load.

**Regarding claim 5**, Ambe et al. teaches a method as discussed in rejection of claim 1.

However, Ambe et al. does not teach the routable protocol is an Internet Protocol, and wherein the Internet Protocol is version six.

Kato et al. teaches the routable protocol is an Internet Protocol version six [Col. 8, lines 53-56].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Internet Protocol version six for routing purposes since it allows for expanding the address space and easing the routing load.

**9. Claims 7, 8, 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over et al. (US-PGPUB 2002/0009083) in view of Doherty et al. (USPN 6,101,170).**

**Regarding claims 7 and 12**, Ambe et al. teaches a method as discussed in rejection of claim 1 and claim 11.

However, Ambe et al. does not teach the data structure is apportioned for a plurality of canonical frame headers.

Doherty et al. teaches the data structure is apportioned for a plurality of canonical frame headers [Col. 6, Table 1].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the data structure apportioned for a plurality of canonical frame headers since its has Destination Address & Source Address fields [Col. 6, Table 1].

**Regarding claim 8**, Doherty et al. further teaches address resolution table index is stored in a canonical frame header [Table 1, **Destination Address is the Address resolution index as discussed in rejection of claim 1**].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to store address resolution index in a canonical frame header to form a unique connection identifier [Col. 1, lines 31-36].

**10. Claims 9, 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ambe et al. (US-PGPUB 2002/0009083) in view of Tasman et al. (USPN 7,116,640).**

**Regarding claims 9 and 13**, Ambe et al. teaches a method as discussed in rejection of claim 1 and claim 11.

However, Ambe et al. does not teach routing table is more compact than a general routing table.

Tasman et al. teaches routing table is more compact than a general routing table [Col. 14, lines 31-33].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to make compact routing table so that they can be transferred, moved, or copied quickly [Col. 14, lines 31-33].

Art Unit: 2616

**11. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ambe et al. (US-PGPUB 2002/0009083) in view of Leung (USPN 6,781,955).**

**Regarding claim 16,** Ambe et al. teaches a method as discussed in rejection of claim 15.

However, Ambe et al. does not teach the data structure is apportioned to having a canonical frame header, wherein the address resolution table index is stored in the canonical frame header.

Leung teaches the data structure is apportioned to having a canonical frame header, wherein the address resolution table index is stored in the canonical frame header [**Col. 6, lines 9-16, VID is the address resolution table index**]

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use a canonical frame header and store the address resolution table index into the canonical frame header so that the index could be used to identify to which VLAN (Virtual Local Area Network) the frame belongs [**Col. 6, lines 9-16**].

**12. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ambe et al. (US-PGPUB 2002/0009083) in view of Iyer et al. (USPN 7,136,926).**

**Regarding claim 25,** Ambe et al. teaches a method as discussed in rejection of claim 24.

However, Ambe et al. does not teach pass-through mode is a firewall only mode.

Iyer et al. teaches pass-through mode is a firewall only mode [**Col. 3, lines 51-56**].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have a firewall mode to improve performance of packet filtering associated with Firewall mode [**Col. 5, lines 37-40**].

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chandrahas Patel whose telephone number is 571-270-1211. The examiner can normally be reached on Monday through Thursday 7:30 to 17:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on 571-272-3139. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



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